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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,475	10/03/2003	David C. Collins	200310621-1	3351

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FORT COLLINS, CO 80527-2400

EXAMINER

PATTERSON, MARC A

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/678,475	<b>Applicant(s)</b> COLLINS ET AL.	
	<b>Examiner</b> Marc A. Patterson	<b>Art Unit</b> 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date 10/3/03, 3/21/05 | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: The claimed aspect in Claim 6 of an open cavity that is partially defined by the build material and partially open to a surface of the three – dimensional object does not appear to be disclosed in the specification.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed aspect of an open cavity that is partially defined by the build material and partially open to a surface of the three – dimensional object does not appear to be disclosed in the specification.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 – 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Ryan et al (WO 98/21626).

With regard to Claim 1, Ryan et al disclose a solid freeform fabrication system (page 4, lines 6 – 10) for producing a three dimensional object (having more than one layer; page 18, lines 15 – 25) comprising build material configured to be deposited in layers to form a three dimensional object (functionalizing material deposited so as to substantially fill a channel, therefore configured to be deposited in layers to form a three dimensional object; page 23, lines 16 – 22) and support material configured to be deposited adjacent to the build material for supporting the build material during formation of the three dimensional object (a layer of relief forming polymer, therefore configured to be deposited, providing retaining features and therefore providing the channel which is filled by the functionalizing material and also forming a feature that imparts a predetermined property of retention within the three – dimensional object; the three dimensional object also therefore comprises embedded features; page 18, lines 15 – 25).

With regard to Claim 2, the claimed aspect of the build material disclosed by Ryan et al being deposited using an ink – jet printhead is directed to a method limitation and is therefore given little patentable weight.

With regard to Claim 3, the build material disclosed by Ryan et al is UV curable (page 19, lines 10 – 11).

With regard to Claim 4, the feature disclosed by Ryan et al is within a cavity defined by the build material (the feature is the property of retention, as stated above, and the retaining feature is filled with build material and therefore defined by the build material, as stated above).

With regard to Claim 5, the cavity disclosed by Ryan et al is a closed cavity that is completely defined by the build material (completely filled; page 22, line 29).

With regard to Claim 6, the cavity disclosed by Ryan et al is an open cavity that is partially defined by the build material and is partially open to a surface of the three dimensional object (partially filled; page 22, line 29; Figure 1e and g).

With regard to Claim 7, the feature disclosed by Ryan et al imparts color (the feature comprises a catalyst which is colored with a dye; page 15, lines 10 – 16 and page 16, lines 9 – 12).

With regard to Claim 8, the feature disclosed by Ryan et al imparts conductance (provides conductivity enhancement; page 16, line 28).

With regard to Claim 9, the build material disclosed by Ryan et al is transparent (non – UV curable, therefore transparent to UV radiation; page 18, lines 20 – 25).

With regard to Claim 10, the feature disclosed by Ryan et al comprises additional build material (the retaining feature disclosed by Ryan et al is partially or completely filled, as stated above, and therefore includes additional build material).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc A Patterson whose telephone number is 571-272-1497.

The examiner can normally be reached on Mon - Fri 8:30 AM - 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Marc A. Patterson* 3/6/06  
Marc A. Patterson, PhD.  
Examiner  
Art Unit 1772